CHAPTER 4

NAME _____ DATE _____

Chapter Test B

For use after Chapter 4

Decide whether the given ordered pair is a solution of the equation.

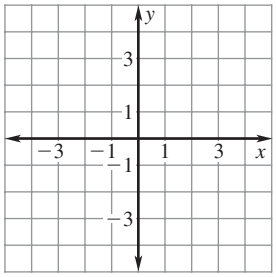
1. $5x + 3y = 2; \left(2, -\frac{4}{5}\right)$

2. $\frac{1}{2}x + 4 = 10y; \left(2, \frac{1}{2}\right)$

In Questions 3 and 4, use a table of values to graph the equation.

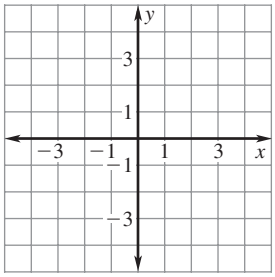
3. $y = \frac{1}{4}x - 2$

x			
y			



4. $y = 3x - \frac{1}{2}$

x			
y			



Find the *x*-intercept of the graph of the equation.

5. $4x + 5y = 8$

6. $3y - 10x = 4$

Find the *y*-intercept of the graph of the equation.

7. $7 - 12x = 3y$

8. $4y + 9 = 5x$

Find the slope of the line passing through the points.

9. $(-4, 6), (-3, 2)$

10. $(-10, -7), (1, -2)$

Find the value of *y* so that the line passing through the two points has the given slope.

11. $(6, y), (3, 3), m = \frac{2}{3}$

12. $(8, y), (2, -3), m = \frac{1}{2}$

13. In 1992, a software company had a profit of $30,000,000. In 1998, the company had a profit of $210,000,000. Find the average rate of change of the company's profit in dollars per year.

Answers

1. _____

2. _____

3. Use grid at left.

4. Use grid at left.

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

Review and Assess

NAME _____ DATE _____

Chapter Test B

For use after Chapter 4

The variables *x* and *y* vary directly. Use the given values to write an equation that relates *x* and *y*.

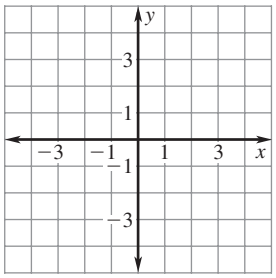
14. $x = -6, y = 42$

15. $x = \frac{1}{2}, y = 18$

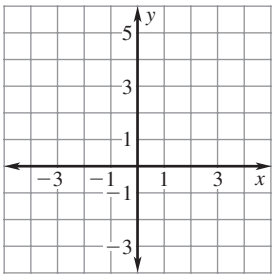
16. You rollerblade at an average speed of 8 miles per hour. The number of miles m you rollerblade during h hours is modeled by $m = 8h$. Do these two quantities have direct variation?

Write the equation in slope-intercept form. Then graph the equation.

17. $6x - 4y = 3$



18. $2y + 5x = 10$



Solve the equation algebraically.

19. $7 - 4x = 5 + 6x$

20. $\frac{3}{5}x + 4 = 10$

Decide whether the graphs of the two equations are parallel lines.

21. $y = 3x + 2, y = \frac{1}{3}x + 4$

22. $3y = 15x + 4, y = 5x + 1$

Evaluate the function when *x* = 3, *x* = 0, and *x* = −2.

23. $f(x) = -\frac{1}{2}x + 3$

24. $h(x) = 5.5x + 4$

25. $g(x) = \frac{1}{8}x - 4$

26. $k(x) = 14 - 4x$

27. Find the slope of the graph of the linear function f with $f(0) = 4$ and $f(3) = 13$.

14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____

CHAPTER 4

NAME _____ DATE _____

Chapter Test C

For use after Chapter 4

Decide whether the given ordered pair is a solution of the equation.

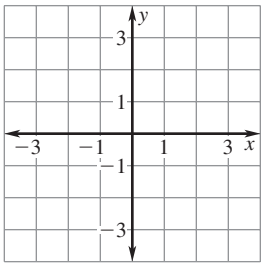
1. $3y + 12x = -4; \left(\frac{1}{5}, -\frac{32}{15}\right)$

2. $8 - 3x + 24y = 0; \left(5, \frac{23}{24}\right)$

In Questions 3 and 4, use a table of values to graph the equation.

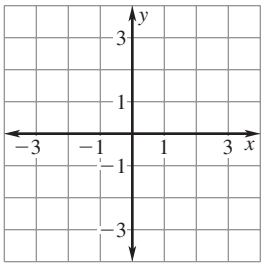
3. $3x + 2y = 7$

x			
y			



4. $y = \frac{4}{5}x - \frac{1}{5}$

x			
y			



5. Your school biology club is organizing a pancake breakfast to raise $400 for a trip to an aquarium. You decide to charge $2 for each child and $5 for each adult. Write an equation to show the relationship between the number of people and the amount of money raised.

Find the *x*-intercept of the graph of the equation.

6. $13x + 24y = -5$

7. $-14 + 6y = 7x$

Find the *y*-intercept of the graph of the equation.

8. $17x + 4y + 10 = 0$

9. $13 + 5y = 15x$

Find the slope of the line passing through the points.

10. $(-5, 5), (-7, -6)$

11. $(7, 12), (4, -13)$

Find the value of *y* so that the line passing through the two points has the given slope.

12. $(6, y), \left(\frac{3}{2}, \frac{9}{5}\right), m = \frac{2}{3}$

13. $(12, y), \left(-6, \frac{9}{7}\right), m = -\frac{1}{6}$

Answers

1. _____

2. _____

3. Use grid at left.

4. Use grid at left.

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

Review and Assess

NAME _____ DATE _____

Chapter Test C

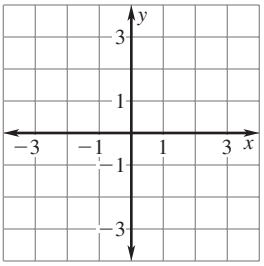
For use after Chapter 4

14. In 1990, a restaurant chain had a profit of $45,000. In 1998, the company had a profit of $2,605,000. Find the average rate of change of the chain's profit in dollars per year.

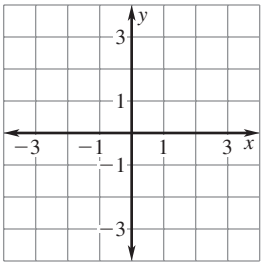
15. Your phone company charges $0.05 per minute for long distance phone calls on the weekend. Write a direct variation model that relates the total cost x to the number of minutes y spent talking on the phone.

Write the equation in slope-intercept form. Then graph the equation.

16. $18y + 2x - 9 = 0$



17. $3x - 4y = -8$



Solve the equation algebraically.

18. $\frac{1}{2}x + \frac{2}{3} = \frac{1}{8}x - \frac{3}{2}$

19. $-4.3 + 5.1x = 5.3x + 7.1$

Decide whether the graphs of the two equations are parallel lines.

20. $2x + 3y = 5,\ 9y + 6x - 1 = 0$

21. $15 + 3x - 10y = 0,\ 30x + 24 = 10y$

Evaluate the function when $x = 4$, $x = 0$, and $x = -3$.

22. $f(x) = 1.5x - 0.4$

23. $h(x) = \frac{3}{8}x + \frac{2}{3}$

24. $g(x) = -14x + 5$

25. $k(x) = 3.2 - 5x$

Find the slope of the graph of the linear function f.

26. $f\left(\frac{5}{2}\right) = \frac{7}{2}, f(4) = 6$

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. _____

26. _____

CHAPTER 4

NAME _____ DATE _____

SAT/ACT Chapter Test

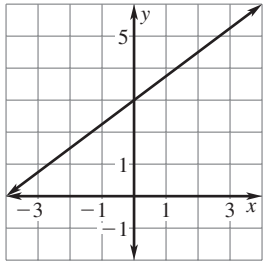
For use after Chapter 4

1. What is the y-intercept of $3x + 2y = 21$?

(A) $\frac{21}{2}$ (B) 14

(C) $\frac{2}{21}$ (D) 7

2. What is the equation of the line shown?



(A) $y = -\frac{3}{4}x + 3$ (B) $y = \frac{3}{4}x + 3$

(C) $y = -\frac{4}{3}x + 4$ (D) $y = \frac{4}{3}x - 4$

3. Find the slope of the line passing through $(-3, -6)$ and $(7, -2)$.

(A) -2 (B) 1

(C) $\frac{4}{5}$ (D) $\frac{2}{5}$

4. Find the value of y so that the line passing through $(-3, y)$ and $(4, 4)$ has a slope of -2.

(A) 18 (B) 10

(C) 2 (D) -6

5. The variables x and y vary directly. When $x = 13$, $y = 52$. Which equation correctly relates x and y?

(A) $y = 13x$ (B) $y = \frac{1}{4}x$

(C) $y = 52x$ (D) $y = 4x$

6. Find the slope and y-intercept of the graph of $y = \frac{5 - x}{10}$.

(A) $m = 10$, y-intercept: 5

(B) $m = -1$, y-intercept: 5

(C) $m = -\frac{1}{10}$, y-intercept: $\frac{1}{2}$

(D) $m = -1$, y-intercept: $\frac{1}{2}$

7. Find the value of $f(x) = 2x - \frac{1}{6}$ when $x = 2$.

(A) $f(2) = \frac{23}{6}$ (B) $f(2) = \frac{1}{2}$

(C) $f(2) = \frac{25}{6}$ (D) $f(2) = -\frac{23}{6}$

8. The population of a city rises from 100,000 to 226,000 over a ten-year period. Using the points (0, 100,000) and (10, 226,000), find the average rate of change in people per year.

(A) 0.000079 people per year

(B) 12,600 people per year

(C) 0.4375 people per year

(D) 2.29 people per year

Choose the statement that is true about the given numbers.

9.

Column A	*Column B*
The slope of the line through $(-6, 2)$ and $(4, -2)$	The slope of the line through $(5, 0)$ and $(0, 2)$

(A) The number in column A is greater

(B) The number in column B is greater

(C) The two numbers are equal.

(D) The relationship cannot be determined from the given information.

Review and Assess